Mars, August 26, 1924, Plate XXIV ..... Op. 520
in 1924, Plate XXIX ..... Op. 596
Photographs of, taken at the Lowell Observatory, Plates XXVI, XXVII ..... Op. 568, 569
Mercury, Diagram of the transit of, across the disk of the sun, May 7, 1924.. 40
near end of transit, May 7-8, 1924, Photographs of, Plate XXI Op. 508
Occultation of, 1924 August 2 (diagrams) 286
Meteors, Geminids, December 13, 15, 1923 ..... 387, 388
Leo Minorids, November 17, 19, 1923 260
Leonids, November 17, 1923 259
Orionids, October 21, 1923 386
Perseids, August 10, 11, 13, 15, 1923 ..... 196, 197
August 11, 1924 509
Moonlit picture and starlit picture, Plate XV ..... Op. 361
Moon, Photographs of, made with single lens 285
Neptune, Apparent orbit of the satellite of 44
Non-luminous matter in space, Photographic evidence of, Plate XI ..... Op. 272
Observatory, The Fuertes Astronomical, Plate I ..... Op. 1
Ophiuchi, Theta, Region north of, Plate X ..... Op. 265
Photographs made with various kinds of light, Plates XIII, XIV ... Op. 332, 333
Planets, Apparent paths of the, Mars, Saturn, Uranus and Neptune among the stars in 1924 42
Mercury, Venus and Jupiter among the stars in 1924 41
Radiation curves across Mars 607
Regulus, Occultation of, 1924 October 23 (diagrams) 474
Saturn, Apparent orbits of the seven inner satellites of 47
Telescope, A garden, Views of 274, 275, 276, 277, 278, 279, 280
The Irving Porter Memorial, of the Fuertes Observatory, Cornell University, Plate II ..... Op. 8
Telescopes, Mr. Clark and his 581
Transmission curves of the atmosphere 602
Tycho, Crater region about, Plate XII ..... Op. 325
"Tycho Ray" 326
Uranus, Apparent orbits of the satellites of 44
Vacuum thermocouple used in the observations of radiation from Mars, Plate XXX ..... Op 604
Venus, Occultation of, 1924 August 26 334

GENERAL INDEX

Absorption, On atmospheric, *H. L. Vanderlinden* 32
Adams, W. S., C. E. St. John and *H. D. Babcock,* On pressure and convection currents in the atmospheres of the sun and stars (abstract)..... 621
Adams, W. S., P. W. Merrill, A. H. Joy, Charts of stellar spectra made with the microphotometer (abstract) 542
Aitken, R. G., Note on the extension of Burnham's General Catalogue of double stars (abstract) 542
Aitken, R. G., and *J. H. Moore,* Note on binary star statistics (abstract).... 559
Alden, Harold L., An interesting star near 61 Virginis (abstract)..... 218
Alden, Harold L., and *P. van de Kamp,* Solar motion derived from the proper motions of tenth magnitude stars (abstract) 542
Aldrich, J. A., Radial velocities of S Sagittae (abstract) 218
Algol, A spectroscopic study of..... 587
On the long-period velocity-variation and the absolute scale of the system of, *Dean B. McLaughlin*..... 225
Algol variable X Trianguli, The, *Frank C. Jordan*..... 224
XX Cassiopeiae, New elements of the 495
Allen, Leah B., and *John C. Duncan,* A new celestial globe for the use of students (abstract) 222
Altimeter, The, *J. A. Pearce* 487
Amateur, The old, *R. Burnside Potter* 588
American Association of Variable Star Observers—
Annual report of the 656
Monthly report of the.....,.....51, 111, 182, 248, 369, 433, 496, 639
American Astronomical Society—
Announcements 262, 451, 661
Reports of observatories (Allegheny, Students', Cincinnati, Dominion, Dominion Astrophysical, Goodsell, University of Illinois, Lick, Lowell) 92-103
Reports of observatories (Dearborn, Dudley, Harvard College, La Plata, Leander McCormick, Detroit, Mount Wilson, United States Naval, Princeton University, Smithsonian Astrophysical, Sproul, Tacubaya, Van Vleck, Washburn, Yale University, Yerkes).....139-167
Thirtieth meeting of the 20
Thirty-first meeting of the 167, 218
Thirty-second meeting of the.....453, 542, 612
Andromedids, 1923, The 389
Arcturus, *Charles Nevers Holmes* 3
Asteroid (132) Aethra, Elements of 182
Ephemeris of 248
Baade's new 578, 657
Asteroids, Numbering of recently discovered 431
Astronomers of the sixth corps area, Meeting of, *Philip Fox*..... 468
Astronomical ceiling design, An, *Edward C. Phillips* 227
club, The Bond 663
expedition, A proposed southern, *W. J. Hussey* 469
lectures at the University of Toronto 123
society of Kansas City, Mo. 65

Astronomical society, The Cleveland 391
Astronomy at the British Association, *C. A. Chant* 461
Civil service examination in 584
of the twentieth century, *John Candee Dean* 524
sidereal and planetary, The real uses of, *William H. Pickering*.. 134
The influence of, upon modern thought, *Heber D. Curtis*..... 4
teaching of 582
Atmospheric pulsation of η Aquilae, *W. Carl Rufus* 228
Aurora Borealis, The 322
Auroras and magnetic disturbances, Notes on, (Posthumous paper of the late Professor C. C. Trowbridge) *Mabel Weil*..... 78
Babcock, H. D., C. E. St. John and *W. S. Adams*, On pressure and convection currents in the atmospheres of the sun and stars (abstract)..... 621
Bailey, S. I., Note on the obscured area near ρ Ophiuchi (abstract)..... 544
Beard, Donald P., The limelight of the moon—an alternative theory..... 325
Beard, Leslie C., Mars (poem) 491
Beta Lyrae, On the orbit of the brighter component of, *R. A. Rossiter*..... 21
Rotation of brighter component of..... 586
Binaries, A comparison of the average velocity of, with that of single stars, *J. H. Oort* 226
Spectrographic studies of eclipsing, *Dean B. McLaughlin*..... 558
Two long-period spectroscopic, *W. E. Harper* 552
R. K. Young 628
Binary star statistics, Note on, *J. H. Moore* and *R. G. Aitken*..... 559
stars, On the mass ratios of, *Edwin B. Wilson* and *William J. Luyten* 626
Third catalogue of spectroscopic..... 585
Book Reviews—
A hand book of solar eclipses..... 664
Am Fernrohr 264
A new book on variable stars 202
Contributions from the Princeton University Observatory, No. 6..... 586
Eclipses of the sun 126
History of the Royal Astronomical Society, 1820-1920..... 587
Kleine Himmelskunde 264
Littrow's Atlas des gest. Himmels 264
Manual of laboratory astronomy 264
Relativity 128
The depths of the universe 392
The graphic construction of eclipses and occultations..... 664
Time and time keepers 127
Weather proverbs and paradoxes 68
Boothroyd, Samuel L., The dedication of the Irving Porter Church Memorial telescope 1
Boss, Benjamin, On parallaxes (abstract) 545
Brightness of lunar eclipses, 1860-1922, The; An attempt to use the eclipsed moon as an aerological indicator, *Willard J. Fisher* 288
Brown, Ernest W., Gravitational forces in spiral nebulae (abstract)..... 545
Resonance in asteroid motions and its treatment (abstract) 219
Cajori, Florian, The growth of legend about Sir Isaac Newton..... 482
Calendar of the eastern churches, The new, *Miriam Nancy Shields*..... 407

Campbell, Leon, Variable stars and the amateur observer (abstract) 612
Celestial globe for the use of students, A new, *John C. Duncan* and *Leah B. Allen* 222
phenomena in 1924 38
Central line of the shadow, The, *Frederic R. Honey* 517
Cepheids, Atmospheric pulsation of, *W. Carl Rufus* 22
Cepheid variables, Résumé of remarks concerning recent studies of, at the Detroit observatory, *R. H. Curtiss* 471
Chant, C. A., Astronomy at the British Association 461
Coblentz, Catherine Cate, Mars (poem) 600
Coblentz, W. W., and *C. O. Lampland,* Radiometric measurements on Mars in 1924 570
Some measurements of the spectral components of planetary radiation (abstract) 546
Cometary object, Reinmuth's 63
Comet *c* 1922, Ephemeris of 65
a 1923, (Dubiago-Bernard), Ephemeris of 64, 181
b 1923, d'Arrest-Reid 62, 65, 121, 495
found by Mellish, October 4 63
a 1924, Reid 316, 384
b 1924, (Encke's) 659
Ephemeris of 432
c 1924, (Finsler), New 578, 659, 660
Spectrum of *J. A. Parkhurst* 521
1917 I, Definitive elements of 432
Comrie, L. J., Planetary occultations (abstract) 220
The observation of lunar occultations in January and February, 1925 629
Constellations of the Zodiac, The 452
Copeland, Leland S., Speeding (poem) 361
Corona of 1923, Some observations regarding the, *John A. Miller* and *Ross W. Marriott* 226
Corrections to Boss' P. G. C., The systematic, *William B. Varnum* 34
Cortie, A. L., The relation between solar activity and terrestrial magnetic disturbance (abstract) 465
Curtis, Heber D., The influence of astronomy upon modern thought 4
Curtiss, Ralph H., Changes in the magnitude and spectrum of R Scuti (abstract) 220
Résumé of remarks concerning recent studies of Cepheid variables at the Detroit observatory 471
Velocity-curves from groups of lines of different chromospheric heights in the atmosphere of W Sagittarii (abstract) 547
Curvature-radius of space-time, Determination of the, *L. Silberstein* 462
Daniel, Zaccheus, Parallax notes from the Allegheny observatory (abstract) . 221
d'Arrest, A story of 124
Daylight intensity from automatic records of total solar and sky radiation, The determination of, *H. H. Kimball* 466
Dean, John Candee, Astronomy of the twentieth century 524

Dedication of the Irving Porter Church Memorial Telescope, The, *Samuel L. Boothroyd* 1
20-inch equatorial telescope of the Chabot observatory to Charles Burckhalter, May 18, 1924 404
Distortions on spotted photographic plates, *Frank E. Ross*..... 619
Distribution of the stars, The, *Harlow Shapley* 418
Double stars, Note on the extension of Burnham's General Catalogue of, *R. G. Aitken* 542
Some photographic measures of, *John H. Pitman*..... 227
Dugan, Raymond Smith, Photometric study of the eclipsing variable R Canis Majoris (abstract) 222
Duncan, John C. and *Leah B. Allen*, A new celestial globe for the use of students (abstract) 222
Dwarf star, C. P. D.—49°11439, Note on red 323
of small proper motion 324
Easter, The date of 193
Earth went dry, If the, *Sir Napier Shaw* 467
Eckhardt, E. A., The errors which may be expected in radio longitude determinations by the automatic sending and receiving apparatus..... 290
Eclipse cycle to which the solar eclipse of January 24, 1925, belongs..... 663
of August 21, 1914, The total solar, *N. N. Jewdokimoff* 513
January 24, 1925, The, *E. A. Fath* 298
September 10, 1923, Note on the, *Joel Stebbins* 18
The expedition from the Yerkes observatory for observing the total solar, at Camp Wrigley, *Edwin B. Frost* 205
the sun of January 24, 1925, Probability of cloudiness for the total, *Frederick Slocum* 479
The total, *William F. Rigge* 522
September 10, 1923, The total 121
Eclipses of the sun at a given place, The frequency of total, *William F. Rigge*... 13
(abstract). 228
Report of the committee on 455
Eclipsing variable R Canis Majoris, Photometric study of the, *Raymond Smith Dugan* 222
Eddington, A. S., Theory of the outflow of radiation from a star (abstract) 462
Eichelberger, W. S., Precession and solar motion (abstract) 548
Eratosthenes, No. 4, *William H. Pickering* 69
No. 5, *William H. Pickering* 302
No. 6, *William H. Pickering* 393
Eros (433), Ephemeris of 64, 182
Experiment, An interesting 584
Fath, E. A., The eclipse of January 24, 1925 298
Fireball, A bright 582
Fisher, Willard J., The brightness of lunar eclipses, 1860-1922; An attempt to use the eclipsed moon as an aerological indicator.... 288
Three-place computation of zenith distances 515
Fox, Philip, Meeting of astronomers of the sixth corps area..... 468
and *Laura Hill*, Studies of Dearborn oservatory parallaxes (abstract) 549
Franklin-Adams chart 449

Frost, Edwin B., The expedition from the Yerkes observatory for observing the total solar eclipse of September 10, 1923, at Camp Wrigley..... 206
Geminids, 1923, The 387
Globular clusters, Apex of the 68
star clusters, The radial velocity of additional, *V. M. Slipher*..... 622
Graphical method for obtaining the elements of eclipsing variables, A, *Bancroft Walker Sitterly* 231
Gravitational forces in spiral nebulae, *Ernest W. Brown* 545
Guiding error in parallax work, The, *Frederick Slocum* 232
Hadden, David E., Review of sunspot observations made at Alta, Iowa, during the years 1921, 1922 and 1923 295
Hall, Asaph, Mass of Saturn's system from observations in pairs of satellites (abstract) 550
Hamilton, G. H., Lunar changes 237
The eye of Mars 520
"seas" of Mars 595
Harper, W. E., Two long-period spectroscopic binaries (abstract)..... 552
Harper, W. E., and *R. K. Young*, Methods and results of spectroscopic absolute magnitude determinations (abstract) 463
Hartmann, J., Progress of zone catalogs in the southern sky..... 240
Hastings, Charles S., The shadow bands of total eclipses 411
Heavens, Observation of the, *Frederic R. Honey* 170, 347, 412
Heights of meteors observed by H. L. Alden and C. P. Olivier, Calculations of the, *C. P. Olivier* 591
Henderson, J. P., and *R. Meldrum Stewart*, Wireless time signals (abstract) 464
Henroteau, F., The system of σ Scorpii (abstract) 463
Henry Draper Catalogue, Completion of the, *Harlow Shapley* 406
Hill, Laura, and *Philip Fox*, Studies of Dearborn observatory parallaxes (abstract) 549
Holmes, Charles Nevers, Arcturus (poem) 3
From solstice unto solstice (poem) 37
Infinity (poem) 312
Honey, Frederic R., Observation of the heavens.....170, 347, 412
The central line of the shadow..... 517
Humphreys, W. J., Rainmaking (abstract) 467
Hussey, W. J., A proposed southern astronomical expedition 469
Infinity, *Charles Nevers Holmes* 312
In Memoriam 261
Intercalary week, The 258
Interesting star near 61 Virginis, An, *Harold L. Alden* 218
International Astronomical Union, A photograph of the members of the..... 65
The American section of the, *Joel Stebbins* 609
Mathematical Congress, The 450
Ionization potential, The astrophysical estimation of, *Cecilia H. Payne*..... 561
Jackson, J., Photographic proper motions of faint stars (abstract) 463
Jameson, H., The reform of the present calendar 416
Jewdokimoff, N. N., The total solar eclipse of August 21, 1914 513
John Tyndall (poem) 103
Jordan, Frank C., The Algol variable X Trianguli (abstract) 224
Joy, A. H., W. S. Adams, P. W. Merrill, Charts of stellar spectra made with the microphotometer (abstract) 542

Jupiter's markings, The drift of, *Latimer J. Wilson* 475
satellites, Phenomena of, ...46, 106, 176, 243, 314, 365, 426
Kimball, H. H., The determination of daylight intensity from automatic records of total solar and sky radiation (abstract) 466
King, Edward S., Spectrograms of sky polarization (abstract) 553
Lampland, C. O., The temporary star in the spiral nebula N. G. C. 5236 (abstract) 553
and *W. W. Coblentz*, Radiometric measurements on Mars in 1924 570
Some measurements of the spectral components of planetary radiation (abstract) 546
Larson, C. J., Polar mountings for refractors and reflectors 414
Latitude results at Lick Observatory, Recent, *R. H. Tucker* 32
variations 322
Lectures in astronomy, Popular 66
Lee, Oliver J., Proper motions and parallaxes of 1041 stars in selected areas 20 to 43 inclusive (abstract) 554
Legend about Sir Isaac Newton, The growth of, *Florian Cajori*..... 482
Lens with non-spherical surfaces, A new, *O. H. Truman* 234
Leonids, The 259
Light: Aetheric vs. corpuscular, *Malcolm K. Parkhurst* and *Winthrop Parkhurst* 87
deflections observed at eclipses, A test for, *Charles Lane Poor*..... 615
Limelight of the moon, The 581
An alternative theory, *Donald P. Beard*..... 325
Longitude determinations by the automatic sending and receiving apparatus, The errors which may be expected in radio, *E. A. Eckhardt* 290
Losh, Hazel Marie, The spectrum of ζ Tauri (abstract) 557
Luminosity-curve, Notes on the, *William J. Luyten* 557
Remarks on the, *W. J. Luyten* 224
Luminosity function, Notes on the, *Frederick H. Seares* 26
Luminous extension at the terminator of Mars, A, *G. Van Biesbroeck*..... 589
Lunar atmosphere, The, *William H. Pickering* 281
changes, *G. H. Hamilton* 237
occultations in January and February 1925, The observation of, *L. J. Comrie* 629
Luyten, Willem J., and *Edwin B. Wilson*, On the mass ratios of binary stars (abstract) 626
Luyten, Willem J., Notes on the luminosity-curve (abstract) 557
Remarks on the luminosity-curve (abstract) 224
McEnrue, William H., The northern cross (poem) 632
McLaughlin, Dean B., On the long-period velocity-variation and the absolute scale of the system of Algol (abstract) 225
Spectrographic studies of eclipsing binaries (abstract) 558
Magellanic clouds, Angular dimensions of the 262
Magnets, The effect of the sun on the, *Luis Rodés* 20
Magnitude and spectrum of R Scuti, Changes in the, *Ralph H. Curtiss*..... 220
Magnitudes of long-period variable stars, The absolute..... 322
the long-period variables and other stars of late types, Mean absolute, *Ralph E. Wilson* 37

Magnitudes, Standard, of faint stars in Vatican XII, *J. A. Parkhurst*..... 486
Marriott, Ross W., and *John A. Miller*, Some observations regarding the corona of 1923 (abstract) 226
Mars 512
A luminous extension at the terminator of, *G. Van Biesbroeck*..... 589
Catherine Cate Coblentz 600
in 1924, Some changes on, *E. C. Slipher* 622
Leslie C. Beard 491
Measurements of the radiation from the planet, *Edison Pettit* and *Seth B. Nicholson* 601
Observations of, in 1924 at the Lowell Observatory, *E. C. Slipher*..... 564
Radiometric measurements on, in 1924, *W. W. Coblentz* and *C. O. Lampland* 570
Report on, No. 27, *William H. Pickering* 335
Report on, No. 28, *William H. Pickering* 532
Signaling, in August 385
Signals from 580
The eye of, *G. H. Hamilton* 520
"seas" of, *G. H. Hamilton* 595
Marsh, Hannah M., and *A. van Maanen*, Notes on proper motion (abstract) 34
Marsh, Hannah M., and *J. H. Oort*, On the proper motions of stars of the thirteenth magnitude (abstract) 559
Marvin, C. F., Let us simplify the calendar and publish statistical data in standardized summaries (abstract) 467
Masses and luminosities of the stars, Relations between the 392
Maury, Antonia C., Some peculiarities in the spectrum of β Lyrae (abstract) 559
Menzel, Donald H., A spectroscopic note (abstract) 226
The atmospheres of the outer planets (abstract) 225
Mercury, Observation of the last phase of the transit of, at the observatory of the Ebro, May 8 508
The transit of, May 7, 1924 .....390, 446
Merrill, P. W., Adams, W. S., A. H. Joy, Charts of stellar spectra made with the microphotometer (abstract) 542
Metals in astronomic space 263
Meteor, A bright 123, 385
brilliant 66, 446
zigzag 447
Meteoric phenomenon, A remarkable 447
Meteorite found at Chippewa Falls, Wisconsin..... 450
Meteors, Bright 508
observed by H. L. Alden and C. P. Olivier, Calculations of the heights of, *Charles P. Olivier* 591
of March 8, 1924, The 260
Michigan University Observatory Publications 124
Miller, John A., and *Ross W. Marriott*, Some observations regarding the corona of 1923 (abstract) 226
Moonlight and starlight, Comparative intensity of, *James Worthington*..... 361
Moore, J. H., and *R. G. Aitken*, Note on binary star statistics (abstract).... 559
Motions, mean distance and luminosities of the class O stars, On the, *Ralph E. Wilson* 626
Nicholson, Seth B., and *Edison Pettit*, Measurements of the radiation from the planet Mars 601

Nicholson, Seth B., and *Edison Pettit*, Radiation from the dark hemisphere of Venus (abstract) 614
Northern cross, The, *William H. McEnrue* 632
Nova in Messier 87, Balanowsky's 449
Object discovered by Baade, New 578, 657
Reinmuth, New 248
Stroobant an asteroid 248
Obscured area near ρ Ophiuchi, Note on the, *S. I. Bailey* 544
Observatory in France, New 67
Occultation of Aldebaran 195, 384, 634
February 13, 1924 199
February 13-14, 1924, *William F. Rigge* 11
April 8, 1924, *William F. Rigge* 169
June 29, 1924, *William F. Rigge* 287
September 19, 1924, *William F. Rigge* 472
November 12, 1924, *William F. Rigge* 522
α Tauri, February 14, 1924 199
γ Virginis 385
Mercury, August 2, 1924, *William F. Rigge* 286
Regulus 587
October 23, 1924, *William F. Rigge* 474
Venus 510
August 26, 1924, *William F. Rigge* 334
Occultations in Taurus, February 13, 1924 200
Planetary, *L. J. Comrie* 220
visible at Washington...46, 105, 175, 244, 316, 365, 426, 491, 574, 634
Occulting matter in space, *Elliott Smith* 265
Olivier, C. P., Calculations of the heights of meteors observed by H. L. Alden and C. P. Olivier 591
Omicron Ceti, Duplicity of 68
Oort, J. H., A comparison of the average velocity of binaries with that of single stars (abstract) 226
Oort, J. H., and *Hannah M. Marsh*, On the proper motions of stars of the thirteenth magnitude (abstract) 559
Orionids, 1923, The 386
Parallax notes from the Allegheny Observatory, *Zaccheus Daniel*..... 221
Parallaxes of double stars, Note on spectroscopic, *Frank Schlesinger*..... 231
On, *Benjamin Boss* 545
Study of Dearborn Observatory, *Philip Fox* and *Laura Hill*..... 549
Parkhurst, J. A., Standard magnitudes of faint stars in Vatican XII..... 486
The spectrum of comet Finsler 521
Parkhurst, Malcolm K., and *Winthrop*, Light: Aetheric vs. corpuscular..... 87
Patterson, J., Upper air observations in Canada (abstract)..... 466
Payne, Cecilia H., The astrophysical estimation of ionization potential (abstract) 561
Pearce, J. A., The altimeter 487
Peculiar class A star 200
Perrine, C. D., Relation of stellar variability to length of period and brightness (abstract) 562
The possible bearing of the spiral nebulae on stellar evolution (abstract) 563

Perseids, August 11, The 509
The, August, 1923 195
Peters, George H., Deductions regarding the recent sun-spot minimum (abstract) 613
Pettit, Edison, and Seth B. Nicholson, Measurements of the radiation from the planet Mars 601
Radiation from the dark hemisphere of Venus (abstract) 614
Phillips, Edward C., An astronomical ceiling design (abstract) 227
Photo-electric photometry at the Washburn Observatory, *Joel Stebbins*..... 233
Photographic society, The royal 324
Photography of the moon with small lenses, *James H. Worthington*..... 284
Pickering, William H., Eratosthenes, No. 4 69
No. 5 302
No. 6 393
Report on Mars, No. 27 335
No. 28 532
The lunar atmosphere 281
real uses of astronomy, sidereal and planetary.. 134
Pitman, John H., Some photographic measures of double stars (abstract)... 227
Planet notes.....44, 104, 174, 241, 313, 362, 424, 490, 573, 633
Planets, Report of the committee on physical observations of the..... 349
The atmospheres of the outer, *Donald H. Menzel* 225
Planetary systems, Determination of the sizes of the 320
Plaskett, H. H., The spectra of nebulae (abstract) 462
Polar mountings for refractors and reflectors, *C. J. Larson* 414
Poor, Charles Lane, A test for light deflections observed at eclipses (abstract) 615
Poor, John M., Star-trails in the case of a telescope whose polar axis makes the angle γ with the earth's axis (abstract)..... 618
Porter, Russell W., A garden telescope 273
Potter, R. Burnside, The old amateur (poem) 588
Precession and solar motion, *W. S. Eichelberger* 548
Pressure and convection currents in the atmospheres of the sun and stars, *C. E. St. John, W. S. Adams* and *H. D. Babcock* 621
Proper motion, Notes on, *A. van Maanen* and *Hannah M. Marsh*..... 34
Proper motions and parallaxes of 1041 stars in selected areas 20 to 43 inclusive, *Oliver J. Lee* 554
of faint stars, Photographic, *J. Jackson* 463
stars of the thirteenth magnitude, On the, *J. H. Oort* and *Hannah M. Marsh* 559
Radial displacements in the Wallal photographs, The, *William B. Varnum*.. 35
velocities due to secondary coma of the camera lens, Systematic errors in, *Otto Struve* 624
of S Sagittae, *J. A. Aldrich* 218
stars of spectral Class R, *R. F. Sanford* 25
125 stars 125
Radiation from a star, Theory of the outflow of, *A. S. Eddington*..... 462
Planetary, Some measurements of the spectral components of, *W. W. Coblentz* and *C. O. Lampland* 546
Rainmaking, *W. J. Humphreys* 467
Reform of the present calendar begun, The, *William F. Rigge* 129

Reform of the present calendar, The, *H. Jameson* 416
Refraction, Some vagaries of, *Arthur J. Roy* 21
Reinmuth's asteroid, Elements of 121
Relativity as represented by the Einstein eclipse problem, *Robert Trumpler*.. 29
The atmosphere of the sun and, *Chas. E. St. John* 23
Report of the committee on eclipses 455
physical observations of the planets..... 349
Resonance in asteroid motions and its treatment, *Ernest W. Brown* 219
Rigge, William F., Occultation of Aldebaran, February 13-14, 1924 11
April 8, 1924 169
June 29, 1924 287
September 19, 1924 472
November 12, 1924 522
Mercury, August 2, 1924 286
Regulus, October 23, 1924 474
Venus, August 26, 1924 334
The frequency of the total eclipses of the sun at a given place 13
(abstract) 228
reform of the present calendar begun 129
total eclipse of the sun of 1925, January 24..... 522
Rodés, Luis, The effect of cosmic clouds on the period of variable stars..... 136
the sun on the magnets (abstract) 20
Ross, Frank E., Distortions on spotted photographic plates (abstract)..... 619
Rossiter, R. A., On the orbit of the brighter component of β Lyrae (abstract) 21
Roy, Arthur J., Some vagaries of refraction (abstract) 21
Rufus, W. Carl, Atmospheric pulsation of Cepheids (abstract) 22
η Aquilae (abstract) 228
Russell, Henry Norris, Notes on the sun-spot spectrum (abstract)..... 620
Series in the arc and spark spectra of titanium (abstract) 230
Ultimate and penultimate lines in spectra (abstract) 229
Sanford, R. F., Radial velocities of stars of spectral class R (abstract)..... 25
Saturn's satellites.....47, 106, 176, 242, 315, 363
system, Mass of, from observation in pairs of satellites, *Asaph Hall* 550
Schlesinger, Frank, Note on spectroscopic parallaxes of double stars (abstract) 231
Seares, Frederick H., Notes on the luminosity function (abstract)..... 26
"Seas" of Mars, The, *G. H. Hamilton*..... 595
Shadow bands at the Australian eclipse, The 202
of total eclipses, The, *Charles S. Hastings* 411
Shapley, Harlow, Completion of the Henry Draper Catalogue 406
The distribution of the stars 418
Shaw, Sir Napier, If the earth went dry (abstract) 467
Shields, Miriam Nancy, The new calendar of the eastern churches..... 407
Sidereal and solar meantime clocks, Methods of mechanically relating..... 67
Silberstein, L., Determination of the curvature radius of space-time(abstract) 462
Simplify the calendar and publish statistical data in standardized summaries, Let us, *C. F. Marvin* 467
Sitterly, Bancroft Walker, A graphical method for obtaining the elements of eclipsing variables (abstract) 231

Sky polarization, Spectrograms of, *Edward S. King* 553
Slipher, E. C., Observations of Mars in 1924 at the Lowell Observatory 564
Some changes on Mars in 1924 (abstract) 622
Slipher, V. M., The radial velocity of additional globular star clusters (abstract) 622
Slocum, Frederick, Probability of cloudiness for the total eclipse of the sun on January 24, 1925 479
The guiding error in parallax work (abstract) 232
Smith, Elliott, Occulting matter in space 265
Solar activity and terrestrial magnetic disturbance, The relation between, *A. L. Cortie* 465
motion derived from the proper motions of tenth magnitude stars, *Harold L. Alden* and *P. van de Kamp* 542
Precession and, *W. S. Eichelberger* 548
radiation, A decline in 126
research, Some notes on, *Issei Yamamoto* 627
Solstice unto solstice, From, *Charles Nevers Holmes* 37
Spectra made with the microphotometer, Charts of stellar, *W. S. Adams, P. W. Merrill, A. H. Joy* 542
of nebulae, The *H. H. Plaskett* 462
the stars, Energy 126
titanium, Series in the arc and spark, *Henry Norris Russell* 230
Ultimate and penultimate lines in, *Henry Norris Russell* 229
Spectrographs, A new prism train for nebular, *O. H. Truman* 15
Spectroscopic absolute magnitude determinations, Methods and results of, *R. K. Young* and *W. E. Harper* 463
note, A, *Donald H. Menzel* 226
Spectrum of β Lyrae, Some peculiarities in the, *Antonia C. Maury* 559
ζ Tauri, The, *Hazel Marie Losh* 557
Speeding, *Leland S. Copeland* 361
Spiral nebulae, Gravitational forces in, *Ernest W. Brown* 545
Star cloud in Sagittarius, Note on a 450
cluster N. G. C. 6822, The distance of the 125
trails in the case of a telescope whose polar axis makes the angle γ with the earth's axis, *John M. Poor* 618
Stebbins, Joel, Note on the eclipse of September 10, 1923 18
Photo-electric photometry at the Washburn Observatory (abstract) 233
The American section of the international astronomical union 609
Stellar evolution, The possible bearing of the spiral nebulae on, *C. D. Perrine* 563
variability, Relation of, to length of period and brightness, *C. D. Perrine* 562
velocities, The asymmetry in the distribution of, *Gustaf Strömberg* .. 28
Stetson, Harlan True, Note on the variation of U Cephei (abstract) 623
Stewart, R. Meldrum, and *J. P. Henderson*, Wireless time signals (abstract) 464
St. John, Chas. E., The atmosphere of the sun, and relativity (abstract) 23
St. John, C. E., W. S. Adams and *H. D. Babcock*, On pressure and convection currents in the atmospheres of the sun and stars (abstract) 621
Stockholm Observatory Publication 512
Strömberg, Gustaf, The asymmetry in the distribution of stellar velocities (abstract) 28

Struve, Otto, Systematic errors in radial velocities due to secondary coma of the camera lens (abstract) 624
Stupart, Sir Frederic, The variableness of Canadian winters (abstract)..... 467
Sun's atmosphere, Pressures in the..... 662
Sunspot activity 512
minimum, Deductions regarding the recent, *George H. Peters*..... 613
observations at Mount Holyoke College, 1923, Résumé of 201
made at Alta, Iowa, Review of, *David E. Hadden*..... 295
spectrum, Notes on the, *Henry Norris Russell*..... 620
Sunspots and solar radiation, The connection between 126
System of σ Scorpii, The, *F. Henroteau* 463
Telescope, A, for South Africa 263
garden, *Russell W. Porter* 273
Dedication of the 20-inch equatorial, of the Chabot Observatory to Charles Burckhalter, May 18, 1924 404
The 20-foot, of the Herschels 262
Telescopes, An amateur's 581
Temporary star in the spiral nebula N. G. C. 5236, The, *C. O. Lampland*.... 553
Townley, S. D., A new catalog of variable stars (abstract) 29
Truman, O. H., A new lens with non-spherical surfaces..... 234
prism train for nebular spectrographs 15
Trumpler, Robert, Relativity as represented by the Einstein eclipse problem (abstract) 29
Tucker, R. H., Recent latitude results at Lick Observatory (abstract) 32
U Cephei, Note on the variation of, *Harlan True Stetson*..... 623
Upper air observations in Canada, *J. Patterson* 466
Van Biesbroeck, G., A luminous extension at the terminator of Mars..... 589
van de Kamp, P., and *Harold L. Alden,* Solar motion derived from the proper motions of tenth magnitude stars (abstract) 542
Vanderlinden, H. L., On atmospheric absorption (abstract) 32
van Maanen, A., and *Hannah M. Marsh,* Notes on proper motion (abstract) 34
Variability, Test of C. DM. —27°11944 for..... 639
Variableness of Canadian winters, The, *Sir Frederic Stupart* 467
Variable star in Ara, New 125
Pavo, H. V. 3740, New 431
observations.....52, 112, 183, 249, 370, 433, 496, 640
RZ Cephei, The 662
Z Andromedae, The 200
stars and the amateur observer, *Leon Campbell*..... 612
A new catalog of, *S. D. Townley* 29
Five new 638
southern 51
in N. G. C. 1851, Two new 452
Maxima of, of short period.....
.....49, 107, 177, 244, 319, 368, 429, 494, 577, 637
Minima of, of short period.....
.....48, 109, 179, 246, 317, 366, 427, 492, 575, 635
near globular clusters, Ten new 323
N. G. C. 6397, New 201
N. G. C. 6723, Six new 430
The effect of cosmic clouds on the period of, *Luis Rodés*.... 136

Variation of starlight, Illusory 389
Varnum, William B., The radial displacements in the Wallal photographs (abstract) 35
systematic corrections to Boss' P. G. C. (abstract) 34
Velocity-curves from groups of lines of different chromospheric heights in the atmosphere of W Sagittarii, *R. H. Curtiss* 547
Velocity of light, New determination of the..... 663
Venus halo 258
Radiation from the dark hemisphere of, *Edison Pettit* and *Seth B. Nicholson* 614
Vesta (4), Ephemeris of 384
Weil, Mabel, Notes on auroras and magnetic disturbances (Posthumous paper of the late Professor C. C. Trowbridge) 78
Wilson, Edwin B., and *Willem J. Luyten*, On the mass ratios of binary stars (abstract) 626
Wilson, Latimer J., The drift of Jupiter's markings..... 475
Wilson, Ralph E., Mean absolute magnitudes of the long-period variables and other stars of late types (abstract)..... 37
On the motions, mean distance and luminosities of the class O stars (abstract) 626
Wireless time signals, *R. Meldrum Stewart* and *J. P. Henderson*..... 464
Worthington, James, Comparative intensity of moonlight and starlight..... 361
Photography of the moon with small lenses 284
Yamamoto, Issei, Some notes on solar research (abstract)..... 627
Yerkes Observatory lantern slides 392
Notes from 585
Young, R. K., Two long-period spectroscopic binaries (abstract)..... 628
Young, R. K., and *W. E. Harper*, Methods and results of spectroscopic absolute magnitude determinations (abstract) 463
Zenith distances, Three-place computation of, *Willard J. Fisher* 515
Zone catalogs in the southern sky, Progress of, *J. Hartmann* 240